

REMARKS/ARGUMENTS

Claim Amendments

The Applicant has not amended or canceled any claims. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-16 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 103 (a)

Claims 1-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Champagne (US 7,310,730 B1) in view of Voit (US 6,798,751 B1). The Applicant respectfully traverses the rejection of these claims.

The Applicant's present invention discloses an intermediate node being adapted to provide multicast for streaming transmission from a streaming server to users in multicast groups. The intermediate node comprises a multicast/broadcast server (BM-SC) providing multicast transmission and a streaming node (NIN) providing a streaming transmission. The intermediate node is responsible for establishing a bearer for multicast transmission. The establishment of a session over the bearer is done by means of translation, the on-demand single-use signalling into multi-user push signalling. In one of the preferred embodiments, a streaming server sends a streaming flow to the intermediate node. The NIN (streaming node) in the intermediate node is the first node that is contacted, which performs an adaptation of the received stream according to the requirements of the multicast subgroup. The NIN communicates with the BM-SC to which the stream is sent in order to be replicated to the subgroups or to the users. Further, the BM_SC decides whether to use unicast or multicast bearer and a corresponding bearer is established.

The Applicant respectfully directs the Examiner's attention to claim 1 and the emphasized elements in claim 1

1. (Previously Presented) A method in an intermediate node comprising a multicast/broadcast server and a streaming node for providing

multicast for streaming transmission from a streaming server to users of a multicast group with the multicast/broadcast server providing multicast transmission and with the streaming node providing a streaming transmission based on an on-demand single-user signalling supporting the transmission of a streaming flow, the method comprising the steps of:
establishing a bearer for a multicast transmission according to the requirements for streaming transmission,

establishing a multi-user streaming session on the bearer by translating the on-demand single-user signalling received from the streaming server into multi-user push signalling,

adapting the received streaming flow to the multicast transmission according to the needs of a multicast group or subgroup of a multicast group,

replicating the received streaming transmission according to the number of the multicast subgroups. (emphasis added)

The Applicant respectfully submits that the Champagne and Voit references, individually or in combination, do not teach or suggest the emphasized limitations.

The Champagne reference establishes a first channel to communicate a private data stream to a first receiver. Then, a request from the first receiver to join a broadcast stream is answered by establishing a second channel over which the streaming data is provided to the first receiver. Champagne is specific as to what types of channel are established: encrypted channels; and to what types of receivers: VPN. The first channel is to provide the first receiver with decryption information which can be used to decrypt information sent on the second channel (col. 3, lines 27-36). The Applicant's invention does not utilize two channels.

In contrast to the Champagne reference, the Applicant discloses a streaming server sending a streaming transmission to the multicast/broadcast server and streaming node combination which then sets up a multicast bearer. The streaming transmission (on demand single user signaling) received from the streaming server is adapted to a multicast transmission, according to the needs of a multicast group. The streaming is replicated and adapted according to the number of multicast subgroups.

There is a single stream between the streaming server and the streaming node. The streaming node replicates the received single-user stream according to the number of groups. Additionally, the single-user stream is translated to accommodate the various

types of multicast groups. The Champagne reference does not disclose the following: use of a combination multicast and streaming node, sending a single stream to the combination node at which it is then translated into push signaling for multicast groups, and each of the multicast streams accommodates a particular multicast group.

The Voit reference is cited for disclosing adapting a received streaming flow to the multicast transmission according to the needs of a multicast group. The Applicant respectfully submits that even though Voit discloses a subscriber joining a multicast channel, Voit does not disclose a combination multicast - streaming node or sending a single stream to the combination node where the streams are translated to accommodate each of the requesting multicast groups. This being the case, the Applicant respectfully submits that neither Champagne nor Voit or a combination of the Champagne and Voit references teaches or suggests the novel elements of claim 1. This being the case, the Applicant respectfully requests allowance of claim 1

The Applicant also requests the allowance of Claims 15 and 16, both being analogous to claim 1 and including similar limitations. Claims 2-14 recite further limitations in combination with the novel elements of claim 1. Therefore the allowance of claims 2-14 is also respectfully requested.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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